

AMENDMENTS TO THE CLAIMS

Please cancel Claims 3, 4, 11, 18, 20 and 21 without prejudice.

Please amend Claims 1, 2, 5-10, 12-17, and 19 as follows.

1. (Currently amended) A load controller provided in a hydrostatic transmission for a work vehicle, wherein power supplied from an engine is branched to drive an implement system and a traveling system, and a hydrostatic transmission is provided in the traveling system; the hydrostatic transmission connecting, in an oil-hydraulic closed circuit, an oil-hydraulic pump driven by the engine and an oil-hydraulic motor driven by the oil-hydraulic pump; the load controller comprising:

a bypass oil line for bypassing an oil line that has high pressure during forward movement in the oil-hydraulic closed circuit to reach an oil line that has low pressure during forward movement or an oil tank; a first opening/closing valve for opening or closing the bypass oil line; and

an opening/closing valve controller that detects a load applied to the engine while traveling during working and opens the first opening/closing valve when the load exceeds a predetermined level; ,

a second opening/closing valve on the valve-outlet side of the first opening/closing valve that opens or closes the bypass oil line by external operation; and

a flow control valve between the first opening/closing valve and the second opening/closing valve.

2. (Currently amended) A load controller according to Claim 1, wherein the opening/closing valve controller comprises a centrifugal governor that detects the number of revolutions of an output shaft of the engine or a revolution number detection shaft connected to the output shaft and opens the first opening/closing valve depending on the number of revolutions.

3. (Cancelled)

4. (Cancelled)

5. (Currently amended) A load controller according to Claim 4, provided in a hydrostatic transmission for a work vehicle, wherein power supplied from an engine is branched to drive an implement system and a traveling system, and a hydrostatic transmission is provided in the traveling system; the hydrostatic transmission connecting, in an oil-hydraulic closed circuit, an oil-hydraulic pump driven by the engine and an oil-hydraulic motor driven by the oil-hydraulic pump; the load controller comprising:

a bypass oil line for bypassing an oil line that has high pressure during forward movement in the oil-hydraulic closed circuit to reach an oil line that has low pressure during forward movement or an oil tank;

a first opening/closing valve for opening or closing the bypass oil line;
an opening/closing valve controller that detects a load applied to the engine while traveling during working and opens the first opening/closing valve when the load exceeds a predetermined level; and

a second opening/closing valve on the valve-outlet side of the first opening/closing valve that opens or closes the bypass oil line by external operation;

wherein the work vehicle comprises comprising:

a clutch for an implement that supplies and halts transmission of power from the engine to the implement system;

a clutch lever for an implement for operating the clutch for the implement; ; and

a clutch interlocking system for an implement that connects the clutch lever for the implement to the second opening/closing valve; and

the clutch interlocking system for implement is being structured so as to open the second opening/closing valve when the clutch lever for the implement is in the ON position and close the second opening/closing valve when the clutch lever for the implement is in the OFF position.

6. (Currently amended) A load controller according to Claim 5, wherein an intermediate switching mechanism that can open or close the second opening/closing valve when the clutch lever for the implement is in the ON position is provided in a clutch interlocking system for the implement.

7. (Currently amended) A load controller according to Claim 4, provided in a hydrostatic transmission for a work vehicle, wherein power supplied from an engine is branched to drive an implement system and a traveling system, and a hydrostatic transmission is provided in the traveling system; the hydrostatic transmission connecting, in an oil-hydraulic closed circuit, an oil-hydraulic pump driven by the engine and an oil-hydraulic motor driven by the oil-hydraulic pump; the load controller comprising:

a bypass oil line for bypassing an oil line that has high pressure during forward movement in the oil-hydraulic closed circuit to reach an oil line that has low pressure during forward movement or an oil tank;

a first opening/closing valve for opening or closing the bypass oil line;

an opening/closing valve controller that detects a load applied to the engine while traveling during working and opens the first opening/closing valve when the load exceeds a predetermined level; and

a second opening/closing valve on the valve-outlet side of the first opening/closing valve that opens or closes the bypass oil line by external operation; wherein the work vehicle comprises comprising:

a speed change gear in the traveling system for switching the traveling speed between a working speed and a non-working speed;

a gearshift for controlling the speed change gear; and

a gearshift interlocking system for connecting the gearshift and the second opening/closing valve;

the gearshift interlocking system being so structured so as to open the second opening/closing valve when the gearshift is at a working speed position, and to close the second opening/closing valve when the gearshift is at a non-working speed position.

8. (Currently amended) A load controller according to Claim 7, wherein an intermediate switching mechanism that can open or close the second opening/closing valve when the speed change gear is at a working speed position is provided in the gearshift interlocking system.

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9. (Currently amended) A load controller according to Claim 4, provided in a hydrostatic transmission for a work vehicle, wherein power supplied from an engine is branched to drive an implement system and a traveling system, and a hydrostatic transmission is provided in the traveling system; the hydrostatic transmission connecting, in an oil-hydraulic closed circuit, an oil-hydraulic pump driven by the engine and an oil-hydraulic motor driven by the oil-hydraulic pump; the load controller comprising:

a bypass oil line for bypassing an oil line that has high pressure during forward movement in the oil-hydraulic closed circuit to reach an oil line that has low pressure during forward movement or an oil tank;

a first opening/closing valve for opening or closing the bypass oil line;
an opening/closing valve controller that detects a load applied to the engine while traveling during working and opens the first opening/closing valve when the load exceeds a predetermined level; and

a second opening/closing valve on the valve-outlet side of the first opening/closing valve that opens or closes the bypass oil line by external operation;

wherein either the oil-hydraulic pump or the oil-hydraulic motor has having an adjustable swash plate, an adjustable swash plate control lever for adjusting the inclination angle of the adjustable swash plate, and an adjustable swash plate interlocking system for connecting the adjustable swash plate control lever to the second opening/closing valve;

the adjustable swash plate interlocking system opening the second opening/closing valve when the adjustable swash plate control lever is at a working speed position and closing the second opening/closing valve when the adjustable swash plate control lever is at a non-working speed position.

10. (Currently amended) A load controller according to Claim 9, wherein an intermediate switching mechanism that can open or close the second opening/closing valve when the adjustable swash plate control lever is at a working speed position is provided in the adjustable swash plate interlocking system.

11. (Cancelled)

12. (Currently amended) A load controller according to Claim 1, provided in a hydrostatic transmission for a work vehicle, wherein power supplied from an engine is branched to drive an implement system and a traveling system, and a hydrostatic transmission is provided in the traveling system; the hydrostatic transmission connecting, in an oil-hydraulic closed circuit, an oil-hydraulic pump driven by the engine and an oil-hydraulic motor driven by the oil-hydraulic pump; the load controller comprising:

a bypass oil line for bypassing an oil line that has high pressure during forward movement in the oil-hydraulic closed circuit to reach an oil line that has low pressure during forward movement or an oil tank;

a first opening/closing valve for opening or closing the bypass oil line; and
an opening/closing valve controller that detects a load applied to the engine while traveling during working and opens the first opening/closing valve when the load exceeds a predetermined level; and

wherein a check valve with a set-pressure adjuster is provided in the valve-outlet side of the first opening/closing valve; the check valve with a set-pressure adjuster allowing only a one-way flow of a working oil from the valve-outlet side of the first opening/closing valve in the bypass oil line and having the ability to stop the one-way flow by external operation.

13. (Currently amended) A load controller according to Claim 12, wherein the check valve with a set-pressure adjuster comprises a valve body, spring, and movable spring receiver, the work vehicle comprising a clutch for the implement to supply and halt power transmission from the engine to the implement system, a clutch lever for the implement that controls the clutch for the implement, and a clutch/check valve interlocking system that connects the clutch lever for the implement to the movable spring receiver, the clutch/check valve interlocking system being structured so as to increase the set pressure of the spring by turning off the clutch lever for the implement and transferring the movable spring receiver toward the valve body, and to stop the one-way flow in the bypass oil line at the OFF position of the clutch for the implement, and comprising an intermediate switching mechanism being provided in the clutch interlocking system for the implement, the intermediate switching mechanism being able to

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control the set pressure of the check valve with a set-pressure adjuster when the clutch for the implement is at the ON position.

14. (Currently amended) A load controller according to ~~Claim~~ claim 12, wherein the check valve with a set-pressure adjuster comprises a valve body, spring, and movable spring receiver, the work vehicle comprising a speed change gear in the traveling system that can switch the traveling speed between a working speed and a non-working speed; a gearshift for controlling the speed change gear; and a speed change gear/check valve interlocking system that connects the gearshift to the movable spring receiver, the speed change gear/check valve interlocking system being structured so as to increase the set pressure of the spring by moving the movable spring receiver toward the valve body when the gearshift is in a traveling speed position and stopping the one-way flow; and comprising an intermediate switching mechanism ~~provided in the speed change gear/check valve interlocking system, the intermediate switching mechanism~~ being able to control the set pressure of the check valve with a set-pressure adjuster when the speed change gear is in a traveling speed position.

15. (Currently amended) A load controller according to ~~Claim~~ claim 12, wherein the check valve with a set-pressure adjuster comprises a valve body, spring, and movable spring receiver; the work vehicle comprising an adjustable swash plate control lever to provide the oil-hydraulic pump of the hydrostatic transmission with stepless speed variation, and an adjustable swash plate/check valve interlocking system that connects the adjustable swash plate control lever to the movable spring receiver, the adjustable swash plate/check valve interlocking system being structured so as to increase the set pressure of the spring by moving the movable spring receiver toward the valve body when the adjustable swash plate control lever is at a non-working speed position, and to stop the one-way flow; and comprising an intermediate switching mechanism ~~provided in the adjustable swash plate/check valve interlocking system, the intermediate switching mechanism~~ being able to control the set pressure of the check valve with a set-pressure adjuster when the adjustable swash plate control lever is in a working speed position.

16. (Currently amended) A load controller according to ~~Claim~~ claim 2, wherein the centrifugal governor is disposed on a rotating axis that operates in collaboration with the oil-

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hydraulic pump of the hydrostatic transmission, and the centrifugal governor is provided in the hydrostatic transmission together with the load controller.

17. (Currently amended) A load controller according to ~~Claim~~ claim 16, wherein the centrifugal governor is housed in a closed chamber adjacent to the load controller, lubricating oil is held in the closed chamber, and the centrifugal governor comprises a flyweight and is structured so that the surface of the lubricating oil comes into contact with the flyweight when the flyweight opens.

18. (Cancelled)

19. (Currently amended) A load controller according to ~~Claim~~ 18 claim 1, wherein the first and second opening/closing valves and the flow control valve are housed in a same valve casing.

20-21. (Cancelled)